## REMARKS

Claims 10, 53 and 55 have been amended. No new matter has been included. Claims 68-110 have been canceled. Claims 1-67 are now pending in this application.

The disclosure stands objected to for certain informalities. Applicant has amended the disclosure and claims to include the appropriate corrections. Accordingly, Applicant respectfully requests that the objection be reconsidered.

Claims 1-7, 11, 12, 17-21, 23, 24, 28-34, 37, 41-45, 47-53, 56, 57 and 62-66 stand rejected under 35 § U.S.C. 103(a) as being unpatentable over Ohsawa et al., "Memory design using a one-transistor gain cell on SOI" (IEEE 2002)("Ohsawa") in view of Pham et al. (U.S. Patent No. 6,838,322)("Pham"). The rejection is respectfully traversed.

Claim 1 recites a "memory device" and claim 32 recites a "processor system." Each of claims 1 and 32 further recites a "storage transistor comprising: a body portion between first and second source/drain regions" and "a gate structure, wherein the gate structure wraps at least partially around the body portion in at least two spatial planes."

Claim 23 recites a "dynamic random access memory (DRAM) cell" comprising, *inter alia*, a "storage transistor comprising: a body portion between first and second source/drain regions, the body portion containing a heavily doped region of a first conductivity type adjacent to the second source/drain region and separated from the first source/drain region" and "a gate structure, the gate structure wrapping at least partially around the body portion in at least two spatial planes."

Claim 28 recites a "memory array" comprising, *inter alia*, "a plurality of memory cells, each memory cell comprising a storage transistor . . ., the storage transistor comprising: . . . a plurality of gates at least partially surrounding the body portion."

Claim 30 recites a "semiconductor chip" comprising, *inter alia*, "a plurality of dynamic random access memory (DRAM) cells, at least one DRAM cell comprising a partially depleted storage transistor" and "a gate structure, the gate structure wrapping at least partially around each fin-shaped structure."

Claim 47 recites a "transistor device" comprising, *inter alia*, "a body portion for storing charge, . . . the body portion including a doped region of a second conductivity type adjacent to the second source/drain region and separated from the first source/drain region" and "a gate structure wrapping around the body portion in at least two spatial planes."

As agreed by the Office Action, Ohsawa does not teach or suggest a gate structure wrapping around a body portion or a plurality of gates. Ohsawa teaches memory based on a one-transistor gain cell. In order to accomplish Ohsawa's one-transistor gain cell, a planar MOSFET with an electrically floating body is used. Ohsawa at p. 1510, Section II. Pham, on the other hand, teaches a fabrication process for forming a FinFET.

Neither Pham nor Ohsawa makes any reference, mention, or suggestion that it is possible to use Pham's FinFET as a storage device. Applicant respectfully submits that this rejection is based improperly on hindsight.

It is understood by those skilled in the art that FinFETs provide very good gate control in the sub-threshold and linear regions. FinFETs allow use of an undoped channel and can be fully depleted devices. As mentioned in Pham, when planar devices are scaled, intense channel doping is needed. However, the channel doping degrades carrier mobility and junction characteristics. Pham at col. 1, lines 25-34. Also, the fabrication processes described by Pham do not include channel doping.

A conventional FinFET, such as the FinFET described by Pham is not suited for use as a storage transistor. Therefore, Pham's FinFET could not simply be used to replace Ohsawa's device to achieve the claimed invention. Ohsawa teaches that floating body effects are maximized. This is directly contrary to Pham. It is well known in the art that floating body effects are detrimental to the conventional operation of a transistor. Pham's FinFET is designed for conventional operations, not operation as a storage device. Therefore, Pham and Ohsawa teach away from the Examiner's suggested combination.

Thus, there would not have been motivation for one of ordinary skill in the art to achieve the present invention. For at least these reasons withdrawal of this rejection is respectfully requested.

Claims 8 and 35 stand rejected under § 103(a) as being unpatentable over Ohsawa in view of Pham, as applied to claim 1, and further in view of Hu et al. (U.S. Patent No. 5,448,513)("Hu"). The rejection is respectfully traversed.

Claims 8 and 35 depend from claims 1 and 32. As discussed above, one of ordinary skill in the art would not have been motivated to combine Ohsawa and Pham as suggested by the Examiner. Likewise, Hu does not provide and teaching, suggestion or motivation for the proposed combination. Therefore, for at least these reasons, withdrawal of this rejection is respectfully requested.

Claims 14-16, 38-40, and 59-61 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohsawa in view of Pham, as applied to claim 1, and further in view of Matsumoto et al. (U.S. Patent No. 6,806,537)("Matsumoto"). The rejection is respectfully traversed.

As discussed above, one of ordinary skill in the art would not have been motivated to combine Ohsawa and Pham as suggested by the Examiner. Likewise, Matsumoto does not provide and teaching, suggestion or motivation for the proposed combination. For at least these reasons, Applicant respectfully requests the withdrawal of this rejection.

Claims 15 and 58 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohsawa in view of Pham, as applied to claim 1, and further in view of Takasu (U.S. Patent No. 5,307,305). The rejection is respectfully traversed.

As discussed above; one of ordinary skill in the art would not have been motivated to combine Ohsawa and Pham as suggested by the Examiner. Likewise, Takasu does not provide and teaching, suggestion or motivation for the proposed combination. For at least these reasons, Applicant respectfully requests the withdrawal of this rejection.

Claims 9, 10, 27, 36, 54, and 55 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohsawa in view of Pham, as applied to claim 1, and further in view of Yu et al. (U.S. Patent No. 6,221,724)("Yu"). The rejection is respectfully traversed.

As discussed above, one of ordinary skill in the art would not have been motivated to combine Ohsawa and Pham as suggested by the Examiner. Likewise, Yu does not provide and teaching, suggestion or motivation for the proposed combination. For at least these reasons, Applicant respectfully requests the withdrawal of this rejection.

In view of the above remarks, Applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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